

December 5, 2006

Mr. Gary L. Harbin  
Executive Secretary  
Teachers' Retirement System  
Commonwealth of Kentucky  
479 Versailles Road  
Frankfort, KY 40601-3800

Dear Gary:

Enclosed are 25 bound copies and one unbound copy of the "Teachers' Retirement System of the State of Kentucky Report of Actuary on the Valuation Prepared as of June 30, 2006".

Sincerely yours,

Edward A. Macdonald, ASA, FCA, MAAA  
President

EAM:sh

Enclosure

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**Teachers' Retirement System  
of the State of Kentucky  
Report of the Actuary on the  
Annual Valuation**

**Prepared as of June 30, 2006**

December 5, 2006

Board of Trustees  
Teachers' Retirement System of the  
State of Kentucky  
479 Versailles Road  
Frankfort, KY 40601-3800

Members of the Board:

Section 161.400 of the law governing the operation of the Teachers' Retirement System of the State of Kentucky provides that the actuary shall make an actuarial valuation of the System. We have submitted the results of the annual actuarial valuation prepared as of June 30, 2006. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The valuation indicates that combined member and state contributions for the fiscal year ending June 30, 2009 at the rate of 24.46% of university members' salaries and 27.42% of non-university members' salaries are required to support the benefits of the System. This represents an increase since the previous valuation in the required employer contribution rate of 0.64% of payroll. There has been a net increase in the state special appropriation from 4.17% to 4.25%, or 0.08% of payroll. Therefore, for the 2008/2009 fiscal year, in addition to the state statutory contribution rates and the state special appropriation, there is a required increase in the employer contribution rate of 1.88%; 0.56% from this valuation and 1.32% from the previous valuation. The contribution to the Life Insurance Fund and the Medical Insurance Fund would remain constant at 0.17% and 1.50% respectively.

The valuation takes into account the effect of amendments to the System enacted through the 2006 Session of the Legislature.

The financing objective of the System is that contribution rates will remain relatively level over time as a percentage of payroll. The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the unit credit actuarial cost method with projected benefits. Five-year market related value of plan assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase by 4.0% annually. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System and meet the parameters for the disclosures under GASB 25 and 27.

We have prepared the trend information shown in the Schedule of Funding Progress in the Financial Section of the Annual Report and Schedule A, Schedule B, Schedule C, Solvency Test and Analysis of Financial Experience shown in the Actuarial Section of the Annual Report.

Board of Trustees  
December 5, 2006  
Page 2

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

In our opinion the System is operating on an actuarially sound basis. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

Respectfully submitted,

Edward A. Macdonald, ASA, FCA, MAAA  
President

Edward J. Koebel, EA, ACA, MAAA  
Senior Actuary

EAM/EJK:sh

## TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Summary of Principal Results	1
II	Membership Data	3
III	Assets	4
IV	Comments on Valuation	4
V	Contributions Payable Under the System	5
VI	Comments on Level of Funding	8
VII	Analysis of Financial Experience	9
VIII	Accounting Information	10
 <u>Schedule</u>		
A	Results of the Valuation and Solvency Test	12
B	Development of the Actuarial Value of Assets	14
C	Summary of Receipts and Disbursements	15
D	Outline of Actuarial Assumptions and Methods	17
E	Summary of Main System Provisions as Interpreted for Valuation Purposes	20
F	Tables of Employee Data	24

**TEACHERS' RETIREMENT SYSTEM  
OF THE STATE OF KENTUCKY  
REPORT OF ACTUARY ON THE VALUATION  
PREPARED AS OF JUNE 30, 2006**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the valuation and a comparison with the results of the previous valuation are summarized below (all dollar amounts are \$1,000's):

Valuation Date	June 30, 2006		June 30, 2005		
Number of active members		73,740		72,281	
Annual salaries	\$	2,859,477	\$	2,703,430	
Number of annuitants and beneficiaries		38,497		37,402	
Annual allowances	\$	1,074,159	\$	994,745	
Assets:					
Market value	\$	13,783,830	\$	13,456,026	
Actuarial value	\$	14,857,641	\$	14,598,843	
Unfunded actuarial accrued liability	\$	5,467,140	\$	4,536,027	
Amortization period (years)		30		30	
		<b>Univ.</b>	<b>Non-Univ.</b>	<b>Univ.</b>	<b>Non-Univ.</b>
Pension Plan:					
Normal		13.91%	17.22%	14.39%	17.84%
Accrued liability		<u>10.55</u>	<u>10.20</u>	<u>9.43</u>	<u>8.94</u>
Total		<u>24.46%</u>	<u>27.42%</u>	<u>23.82%</u>	<u>26.78%</u>
Member		7.625%	9.105%	7.625%	9.105%
State (ARC)		<u>16.835</u>	<u>18.315</u>	<u>16.195</u>	<u>17.675</u>
Total		<u>24.46%</u>	<u>27.42%</u>	<u>23.82%</u>	<u>26.78%</u>
Life Insurance Fund:					
State		0.17%	0.17%	0.17%	0.17%
Medical Insurance Fund:					
Member		0.75%	0.75%	0.75%	0.75%
State Match		0.75	0.75	0.75	0.75
State Additional		<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Total		<u>1.50%</u>	<u>1.50%</u>	<u>1.50%</u>	<u>1.50%</u>
Total Contributions		<u>26.13%</u>	<u>29.09%</u>	<u>25.49%</u>	<u>28.45%</u>
<b>Contribution rates for fiscal year ending:</b>		<b>June 30, 2009</b>		<b>June 30, 2008</b>	
Member Statutory		8.375%	9.855%	8.375%	9.855%
State Statutory		11.625	13.105	11.625	13.105
Required Increase		1.88	1.88	1.32	1.32
State Special		<u>4.25</u>	<u>4.25</u>	<u>4.17</u>	<u>4.17</u>
Total		<u>26.13%</u>	<u>29.09%</u>	<u>25.49%</u>	<u>28.45%</u>

2. The valuation indicates that combined member and State contributions at the rate of 24.46% of salaries for university members and at 27.42% for non-university members are sufficient to support the current benefits of the System. We also recommend that 0.17% be contributed by the state to the Life Insurance Fund and 1.50% combined member and state contributions be made to the Medical Insurance Fund. Comments on the valuation results as of June 30, 2006 are given in Section IV and further discussion of the contribution levels is set out in Sections V and VI.
3. Schedule D of this report outlines the full set of actuarial assumptions and methods employed in the current valuation. Since the previous valuation, the assumed rates of withdrawal, disability, retirement and mortality have been revised to reflect the results of the experience investigation for the five year period ending June 30, 2005. These revised assumptions were adopted by the Board of Trustees on September 18, 2006.
4. The valuation takes into account the effect of amendments to the System enacted through the 2006 Session of the Legislature. Since the previous valuation, the System has been amended to grant a one-time 0.8% cost-of-living increase effective July 1, 2006, and a one-time 0.6% cost-of-living increase effective July 1, 2007.
5. All amounts shown prior to the 2004/2005 fiscal year were developed and/or reported by the prior actuarial firm.

**SECTION II - MEMBERSHIP DATA**

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the Retirement System office. The following table shows the number of active members and their annual salaries as of June 30, 2006 on the basis of which the valuation was prepared.

GROUP	NUMBER	ANNUAL SALARIES (\$1,000's)
Males	17,938	\$ 776,490
Females	<u>55,802</u>	<u>2,082,987</u>
Total	73,740	\$ 2,859,477

The table reflects the active membership for whom complete valuation data was submitted. The results of the valuation were adjusted to take account of inactive members and members for whom incomplete data was submitted.

2. The following table shows the number and annual retirement allowances payable to annuitants and beneficiaries on the roll of the Retirement System as of the valuation date.

**THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF  
ANNUITANTS AND BENEFICIARIES ON THE ROLL  
AS OF JUNE 30, 2006**

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES <sup>1</sup> (\$1,000's)
Service Retirements	33,684	\$ 984,911
Disability Retirements	2,038	48,026
Beneficiaries of Deceased Members	<u>2,775</u>	<u>41,222</u>
Total	38,497	\$ 1,074,159

<sup>1</sup> Includes cost-of-living adjustments effective through July 1, 2007.

3. Table 1 of Schedule F shows a distribution by age and years of service of the number and annual salaries of active members included in the valuation, while Table 2 shows the number and annual retirement allowances of annuitants and beneficiaries included in the valuation, distributed by age.

### **SECTION III - ASSETS**

1. As of June 30, 2006 the market value of Pension Plan assets for valuation purposes held by the System amounted to \$13,783,830,173. This value excludes assets in the Medical Insurance Fund, the 403(b) Program Reserve Fund, and the Life Insurance Fund, which are not included in the assets used for Pension Plan valuation purposes.
2. The five-year market related value of Pension Plan assets used for valuation purposes as of June 30, 2006 was \$14,857,641,238. Schedule B shows the development of the actuarial value of assets as of June 30, 2006.
3. Schedule C shows the receipts and disbursements for the year preceding the valuation date and a reconciliation of the asset balances for the Pension Plan and the Life Insurance Fund.

### **SECTION IV - COMMENTS ON VALUATION**

1. Schedule A of this report outlines the results of the actuarial valuation (amounts are \$1,000's). The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule D.
2. The valuation shows that the System has an actuarial accrued liability of \$8,108,193 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of benefits payable to annuitants and beneficiaries amounts to \$12,033,112 of which \$1,059,382 is for special appropriations remaining to be made toward funding minimum annuities, ad hoc increases and sick leave allowances granted after 1981. The liability for benefits expected to be paid to inactive members and to members entitled to deferred vested benefits is \$183,475. The total actuarial accrued liability of the System amounts to \$20,324,781. Against these liabilities, the System has present assets for valuation purposes of \$14,857,641. When this amount is deducted from the actuarial accrued liability of \$20,324,781, there remains \$5,467,140 as the unfunded actuarial accrued liability.
3. The normal contribution rate is equal to the actuarial present value of benefits accruing during the current year divided by the annual active members' payroll. The normal contribution rate is determined to be 13.91% of payroll for university members and 17.22% for non-university members.

## **SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM**

1. Section 161.540 of the retirement law provides that each university member will contribute 8.375% of annual salary to the System and each non-university member will contribute 9.855% of annual salary. Of this amount, 0.75% is paid to the Medical Insurance Fund for medical benefits leaving 7.625% for university members and 9.105% for non-university members applicable for the retirement benefits taken into account in the valuation.
2. Section 161.550 provides that the State will match the member contributions and contribute a supplemental 3.25% of members' salaries towards discharging the System's unfunded obligations. The System was amended as of June 30, 2000 to allow the Board to allocate up to a maximum of the entire 3.25% to the Medical Insurance Fund. For the 2008/2009 fiscal year, we recommend that the Board allocate the entire 3.25% towards the Pension Plan.
3. Therefore, 10.875% of active university members' salaries and 12.355% of active non-university members' salaries is funded by statute or supplemental funding for the Pension Plan and Life Insurance Fund. Of this amount, 0.17% of payroll will be allocated to the Life Insurance Fund. Based on the results of the valuation, an additional 1.88% of payroll for both university and non-university will be required in order to maintain the amortization of the unfunded liability of the Pension Plan within a 30-year period. An additional special appropriation of 4.25% of total payroll will be made by the State. The total required employer contribution rate to the Pension Plan is, therefore, 16.835% for university members and 18.315% for non-university members. The total member and employer contribution rates to the Pension Plan are shown in the following table.

**CONTRIBUTION RATES BY SOURCE**

	<b>UNIVERSITY</b>	<b>NON-UNIVERSITY</b>
<b><u>Member</u></b>		
Statutory Total	8.375%	9.855%
Statutory Medical Insurance Fund	<u>(0.75)</u>	<u>(0.75)</u>
Contribution to Pension Plan	7.625%	9.105%
<b><u>Employer</u></b>		
Statutory Matching Total	8.375%	9.855%
Statutory Medical Insurance Fund	(0.75)	(0.75)
Supplemental Funding	<u>3.25</u>	<u>3.25</u>
Subtotal	10.875%	12.355%
Life Insurance	(0.17)%	(0.17)%
Additional to Maintain 30-Year Amortization	1.88	1.88
Special Appropriation	<u>4.25</u>	<u>4.25</u>
Contribution to Pension Plan	16.835%	18.315%
Total Contribution to Pension Plan	24.46%	27.42%

4. The valuation indicates that normal contributions at the rate of 13.91% of active university members' salaries are required to meet the cost of benefits currently accruing. The normal rate for non-university members is 17.22%. The difference between the total contribution rate and the normal rate remains to be applied toward the liquidation of the unfunded actuarial accrued liability. This accrued liability rate is 10.55% for university members and 10.20% for non-university members. These rates include special appropriations of 4.25% of payroll to be made by the State. These rates are shown in the following table.

**ACTUARIALLY DETERMINED CONTRIBUTION RATES**

RATE	PERCENTAGE OF ACTIVE MEMBERS' SALARIES	
	UNIVERSITY	NON-UNIVERSITY
Normal	13.91%	17.22%
Accrued liability*	<u>10.55</u>	<u>10.20</u>
Total	24.46%	27.42%

\* Includes special appropriations of 4.25% of payroll to be made by the State.

5. The unfunded actuarial accrued liability amounts to \$5,467,140,000 as of the valuation date. Accrued liability contributions at the rate of 10.55% of active university members' payroll and 10.20% of non-university members' payroll are sufficient to amortize the unfunded actuarial accrued liability over a 30-year period, based on the assumption that the payroll will increase by 4.0% annually.

**SECTION VI - COMMENTS ON LEVEL OF FUNDING**

1. The benefit percentage for non-university members is 2.0% for service accrued through July 1, 1983 and 2.5% for service up to 30 years accrued after that date. However, for members who join the System on or after July 1, 2002 and retire with less than 10 years of service, the benefit percentage is 2.0%. For members who joined the System on or after July 1, 2002, who retire with 10 or more years of service, the benefit percentage is 2.5% for all years of service up to 30 years. For all members who retire on or after July 1, 2004, the benefit percentage for service earned in excess of 30 years is 3.0%. The total net contribution rate is 27.42% of payroll for non-university members. For university members the benefit percentage is 2.0% for all service and the contribution rate is 24.46%. Our calculations indicate that these contribution rates will be sufficient to cover the benefits of the System, the annual 1.5% increases in the allowances of retired members and beneficiaries, and the liabilities for minimum annuities, ad hoc increases and sick leave allowances granted after 1981.
  
2. The valuation indicates that the present statutory contribution rates, supplemental funding and special appropriations, if continued at the current level percentage, along with an additional required contribution of 1.88%, not currently provided in statute, are sufficient to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 30 years. However, as existing special contributions expire, the statutory contributions or supplemental funding will be required to increase as an equal percentage of payroll, in order to amortize the unfunded liability within a period of 30 years.
  
3. The System has been operating on an actuarially sound basis. However, there are no excess assets or contributions available to provide additional benefits, and there is a cumulative increase in the required employer contribution of 1.88% of payroll for the fiscal year ending June 30, 2009, as shown in the following table:

<u>Valuation Date</u>	<u>Fiscal Year</u>	<u>Increase</u>	<u>Cumulative Increase</u>
June 30, 2004	June 30, 2007	0.11%	0.11%
June 30, 2005	June 30, 2008	1.21	1.32
June 30, 2006	June 30, 2009	0.56	1.88

In addition, as existing special contributions expire, the statutory contributions or supplemental funding will be required to increase as an equal percentage of payroll, in order to amortize the unfunded liability within 30 years. Any further benefit improvements must be accompanied by the entire additional contributions necessary to support the benefits.

**SECTION VII – ANALYSIS OF FINANCIAL EXPERIENCE**

The following table shows the estimated gain or loss from various factors that resulted in an increase of \$931,113,000 in the unfunded accrued liability from \$4,536,027,000 to \$5,467,140,000 during the year ending June 30, 2006.

**ANALYSIS OF FINANCIAL EXPERIENCE**

(Dollar amounts in thousands)

ITEM	AMOUNT OF INCREASE/ (DECREASE)
Interest (7.50%) added to previous unfunded accrued liability	\$ 340,202
Accrued liability contribution	(168,343)
Experience:	
Valuation asset growth	448,987
Pensioners' mortality	(5,966)
Turnover and retirements	(17,637)
New entrants	66,856
Salary increases	104,671
Amendments	161,952
Assumption and method changes	<u>391</u>
Total	\$ 931,113

**SECTION VIII - ACCOUNTING INFORMATION**

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED MEMBERS  
AS OF JUNE 30, 2006**

<b>GROUP</b>	<b>NUMBER</b>
Retirees and beneficiaries currently Receiving benefits	38,497
Terminated employees entitled to Benefits but not yet receiving benefits	4,275
Active plan members	<u>73,740</u>
Total	116,512

2. Another such item is the schedule of funding progress as shown below.

**SCHEDULE OF FUNDING PROGRESS**  
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Projected Unit Credit (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (( b - a ) / c)
6/30/2001*	\$13,299,161	\$14,642,129	\$ 1,342,968	90.8%	\$2,213,772	60.7%
6/30/2002	13,588,847	15,695,574	2,106,727	86.6	2,313,663	91.1
6/30/2003	13,863,786	16,594,781	2,730,995	83.5	2,497,731	109.3
6/30/2004	14,255,131	17,617,626	3,362,495	80.9	2,641,533	127.3
6/30/2005	14,598,843	19,134,870	4,536,027	76.3	2,703,430	167.8
6/30/2006*	14,857,641	20,324,781	5,467,140	73.1	2,859,477	191.2

\* Reflects change in decremental assumptions.

3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2006. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2006
Actuarial cost method	Projected unit credit
Amortization method	Level percent of pay, open
Remaining amortization period	30 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of Return*	7.50%
Projected salary Increases*	4.00 - 8.20%
Cost-of-living adjustments	1.50% Annually
*Includes inflation at	4.00%

#### TREND INFORMATION

<u>Year Ending</u>	<u>Annual Pension Cost (APC)</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation (NPO)</u>
June 30, 2004	\$364,351,412	100%	\$0
June 30, 2005	383,776,826	100	0
June 30, 2006	406,107,266	100	0

The required employer contribution increase of 0.11% is scheduled for the current 2007 fiscal year budget and the increase of 1.32% is scheduled for the 2008 fiscal year budget. However, a portion of the pension contribution stream was contributed to the Medical Stabilization Fund. Therefore, there will be an NPO for the fiscal year ending June 30, 2007.

**SCHEDULE A**

**RESULTS OF THE VALUATION  
PREPARED AS OF JUNE 30, 2006  
(\$1,000's)**

<b>1. ACTUARIAL ACCRUED LIABILITY</b>		
Present value of prospective benefits payable in respect of:		
(a) Present active members:		
- Service retirement benefits	\$ 7,580,014	
- Disability retirement benefits	331,190	
- Death and survivor benefits	63,063	
- Refunds of member contributions	<u>133,926</u>	
Total		\$ 8,108,193
(b) Present inactive members and members entitled to deferred vested benefits:		183,475
(c) Present annuitants and beneficiaries:		
- Service retirement benefits	\$11,265,660	
- Disability retirement benefits	381,567	
- Death and survivor benefits	<u>385,886</u>	
Total		<u>\$ 12,033,112</u>
(d) Total actuarial accrued liability		\$ 20,324,781
<b>2. PRESENT ASSETS FOR VALUATION PURPOSES</b>		<b>\$ 14,857,641</b>
<b>3. UNFUNDED ACTUARIAL ACCRUED LIABILITY [(1) minus (2)]</b>		<b>\$ 5,467,140</b>
<b>4. NORMAL CONTRIBUTION RATE</b>		
	<b><u>UNIVERSITY</u></b>	<b><u>NON-UNIVERSITY</u></b>
(a) Actuarial present value of benefits accruing annually	\$ 24,509	\$ 462,089
(b) Annual payroll of active members	\$ 176,135	\$ 2,683,342
(c) Normal contribution rate [4(a) divided by 4(b)]	13.91%	17.22%

**SCHEDULE A**

**(continued)**

**SOLVENCY TEST  
(in millions of dollars)**

Fiscal Year Ending	(1) Active Member Contributions	(2) Retirants And Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Assets		
					(1)	(2)	(3)
6/30/2001	\$2,215.5	\$8,037.0	\$4,389.6	\$13,299.2	100%	100%	69%
6/30/2002	2,302.3	8,816.9	4,576.4	13,588.8	100	100	54
6/30/2003	2,413.9	9,329.3	4,851.6	13,863.8	100	100	44
6/30/2004	2,546.1	9,906.2	5,165.3	14,255.1	100	100	35
6/30/2005	2,621.3	11,370.4	5,143.2	14,598.8	100	100	12
6/30/2006	2,615.8	12,216.6	5,492.4	14,857.6	100	100	0

**SCHEDULE B**

**DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS  
AS OF JUNE 30, 2006**

(1)	Actuarial Value Beginning of Year	\$ 14,598,842,537
(2)	Market Value End of Year	\$ 13,783,830,173
(3)	Market Value Beginning of Year	\$ 13,456,025,741
(4)	Cash Flow	
	a. Contributions	\$ 664,572,122
	b. Benefit Payments	<u>1,037,706,643</u>
	c. Net	\$ (373,134,521)
(5)	Investment Income	
	a. Market total: (2) – (3) – (4)c	\$ 700,938,953
	b. Assumed Rate	7.50%
	c. Amount for Immediate Recognition: [(1) x (5)b] + [(4)c * (5)b * 0.5]	\$ 1,080,920,646
	d. Amount for Phased-In Recognition: (5)a – (5)c	\$ (379,981,693)
(6)	Phased-In Recognition of Investment Income	
	a. Current Year: 0.20*(5)d	\$ (75,996,339)
	b. First Prior Year	(23,843,540)
	c. Second Prior Year	(349,147,545)
	d. Third Prior Year	0
	e. Fourth Prior Year	<u>0</u>
	f. Total Recognized Investment Gain	\$ (448,987,424)
(7)	Actuarial Value End of Year: (1) + (4)c + (5)c + (6)f	\$ 14,857,641,238
(8)	Difference Between Market & Actuarial Values: (2) – (7)	\$ (1,073,811,065)

**SCHEDULE C**

**PENSION PLAN ASSETS  
SUMMARY OF RECEIPTS AND DISBURSEMENTS\*  
(Market Value)**

	For the Year Ending	
	June 30, 2006	June 30, 2005
<b>Receipts for the Year</b>		
Contributions		
Members	\$ 258,464,856	\$ 247,024,518
Employers	<u>406,107,266</u>	<u>383,776,826</u>
Total	\$ 664,572,122	\$ 630,801,344
Net Investment Income	<u>707,778,812</u>	<u>943,831,270</u>
<b>TOTAL</b>	<b>\$ 1,372,350,934</b>	<b>\$ 1,574,632,614</b>
<b>Disbursements for the Year</b>		
Benefit Payments	\$ 1,024,872,421	\$ 959,518,739
Refunds to Members	12,834,222	10,975,941
Medical Insurance Payments	0	0
Miscellaneous, including expenses	<u>6,839,859</u>	<u>6,652,672</u>
<b>TOTAL</b>	<b>\$ 1,044,546,502</b>	<b>\$ 977,147,352</b>
<b>Excess of Receipts over Disbursements</b>	<b>\$ 327,804,432</b>	<b>\$ 597,485,262</b>
<b>Reconciliation of Asset Balances</b>		
Asset Balance as of the Beginning of the Year	\$ 13,456,025,741	\$ 12,858,540,479
Excess of Receipts over Disbursements	<u>327,804,432</u>	<u>597,485,262</u>
Asset Balance as of the End of the Year	<u>\$ 13,783,830,173</u>	<u>\$ 13,456,025,741</u>

\* Excludes assets for Medical Insurance Fund, the 403(b) Program Reserve Fund and the Life Insurance Fund.

**SCHEDULE C**

**LIFE INSURANCE FUND\***  
**SUMMARY OF RECEIPTS AND DISBURSEMENTS**  
**(Market Value)**

	For the Year Ending	
	June 30, 2006	June 30, 2005
<b>Receipts for the Year</b>		
Contributions		
Members	\$ 0	\$ 0
Employers	<u>4,813,703</u>	<u>4,569,612</u>
Total	\$ 4,813,703	\$ 4,569,612
Net Investment Income	<u>2,689,330</u>	<u>2,239,285</u>
<b>TOTAL</b>	<b>\$ 7,503,033</b>	<b>\$ 6,808,897</b>
<b>Disbursements for the Year</b>		
Benefit Payments	\$ 3,894,000	\$ 3,852,800
Refunds to Members	0	0
Medical Insurance Payments	0	0
Miscellaneous, including expenses	<u>0</u>	<u>0</u>
<b>TOTAL</b>	<b>\$ 3,894,000</b>	<b>\$ 3,852,800</b>
<b>Excess of Receipts over Disbursements</b>	<b>\$ 3,609,033</b>	<b>\$ 2,956,097</b>
<b>Reconciliation of Asset Balances</b>		
Asset Balance as of the Beginning of the Year	\$ 63,972,204	\$ 61,016,107
Excess of Receipts over Disbursements	<u>3,609,033</u>	<u>2,956,097</u>
Asset Balance as of the End of the Year	<u><b>\$ 67,581,237</b></u>	<u><b>\$ 63,972,204</b></u>

\* The retiree portion of the Life Insurance Fund when allocated will be moved to the GASB 43 and 45 report next year.

**SCHEDULE D**

**OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

The assumptions and methods used in the valuation were selected by the Actuary based on the actuarial experience investigation as of June 30, 2005 and adopted by the Board of Trustees on September 18, 2006.

INVESTMENT RATE OF RETURN: 7.5% per annum, compounded annually.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include inflation at 4.0% per annum:

<u>Age</u>	<u>Annual Rate</u>
20	8.10%
25	7.20
30	6.20
35	5.50
40	5.00
45	4.70
50	4.50
55	4.30
60	4.20
65	4.00

SEPARATIONS FROM SERVICE: Representative values of the assumed annual rates of death, disability, withdrawal, service retirement and early retirement are as follows:

Males

Age	Annual Rate of						
	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
			Service			Before 27 Years of Service	After 27 Years of Service*
			0 – 4	5 – 9	10+		
20	0.003%	0.01%	9.00%				
25	0.010%	0.01%	9.00%	1.50%			
30	0.016%	0.02%	9.00%	3.00%	3.00%		
35	0.032%	0.05%	10.00%	3.25%	1.50%		
40	0.048%	0.08%	10.00%	3.75%	1.50%		
45	0.064%	0.22%	9.50%	2.50%	1.50%		25.0%
50	0.104%	0.42%	10.00%	4.00%	3.00%		20.0%
55	0.216%	0.60%	11.00%	3.00%	2.70%	6.0%	35.0%
60	0.375%	0.79%	11.00%	3.00%	2.70%	14.0%	25.0%
62	0.438%	0.83%	11.00%	3.00%	2.70%	14.0%	23.0%
65	0.566%	0.90%	11.00%	3.00%	2.70%	22.5%	35.0%
70	0.905%	0.00%	0.00%	0.00%	0.00%	100.0%	100.0%

\*Plus 5% before age 55 and 15% after age 55 in year when first eligible for unreduced retirement with 27 years of service.

Females

Age	Annual Rate of						
	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
			Service			Before 27 Years of Service	After 27 Years of Service*
			0 – 4	5 – 9	10+		
20	0.002%	0.03%	6.00%				
25	0.007%	0.03%	8.50%	3.00%			
30	0.014%	0.04%	9.00%	4.00%	1.50%		
35	0.026%	0.11%	8.50%	4.00%	2.00%		
40	0.044%	0.22%	8.50%	2.50%	1.50%		
45	0.055%	0.38%	7.00%	2.50%	1.50%		25.0%
50	0.066%	0.44%	8.50%	3.00%	2.25%		20.0%
55	0.085%	0.56%	10.00%	3.50%	2.50%	7.5%	35.0%
60	0.122%	0.85%	11.00%	3.50%	2.50%	16.5%	30.0%
62	0.137%	0.85%	11.00%	3.50%	2.50%	12.5%	25.0%
65	0.159%	0.85%	11.00%	3.50%	2.50%	26.0%	30.0%
70	0.195%	0.00%	0.00%	0.00%	0.00%	100.0%	100.0%

\*Plus 5% before age 55 and 20% after age 55 in year when first eligible for unreduced retirement with 27 years of service.

DEATHS AFTER RETIREMENT: According to the 1994 Group Annuity Mortality Table for the period after service retirement. Special rates are used for the period after disability retirement. Representative values of the assumed annual rates of death after service and disability retirement are as follows:

Age	Annual Rate of Death After			
	Service Retirement		Disability Retirement	
	Male	Female	Male	Female
45	0.1578%	0.0973%	6.500%	6.500%
50	0.2579	0.1428	10.000	10.000
55	0.4425	0.2294	10.000	10.000
60	0.7976	0.4439	9.000	9.000
65	1.4535	0.8636	10.000	10.000
70	2.3730	1.3730	6.500	4.500
75	3.7211	2.2686	7.000	6.000
80	6.2027	3.9396	10.000	6.500
85	9.7240	6.7738	12.500	7.500
90	15.2931	11.6265	15.000	17.500
95	23.3606	18.6213	23.368	31.702

ACTUARIAL METHOD: Unit Credit Actuarial Cost Method with projected benefits. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability.

ASSETS: Five-year market related actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return of 7.50%. The amount recognized each year is 20% of the difference between market value and expected actuarial value.

EXPENSE LOAD: None.

PERCENT MARRIED: 100%, with females 3 years younger than males.

LOADS: Unused sick leave: 1% of active liability

## SCHEDULE E

### **SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES**

The Teachers' Retirement System of the State of Kentucky was established on July 1, 1940. The valuation took into account amendments to the System effective through June 30, 2006. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

#### 1 - DEFINITIONS

"Final average salary" means the average of the five highest annual salaries which the member has received for service in a covered position and on which the member has made contributions or on which the public board, institution or agency has picked up the member contributions. For a member who retires after attaining age 55 with 27 years of service, "final average salary" means the average of the three highest annual salaries.

#### 2 - BENEFITS

##### Service Retirement Allowance

###### Condition for Allowance

Completion of 27 years of service or attainment of age 55 and 5 years of service.

###### Amount of Allowance

The annual retirement allowance for non-university members is equal to:

- (a) 2.0% of final average salary multiplied by service before July 1, 1983, plus
- (b) 2.5% of final average salary multiplied by service after July 1, 1983.
- (c) For individuals who become members of the Retirement System on or after July 1, 2002 and have less than 10 years of service at retirement, the retirement allowance is 2.0% of final average salary multiplied by service. If, however, they have 10 or more years, they receive a benefit percentage of 2.5% for all years of service up to 30 years.

- (d) For members retiring on or after July 1, 2004, the retirement allowance formula is 3.0% of final average salary for each year of service credit earned in excess of 30 years.

The annual retirement allowance for university members is equal to 2.0% of final average salary multiplied by all years of service.

For all members, the annual allowance is reduced by actuarial equivalent factors from the earlier of age 60 or the date the member would have completed 27 years of service.

The minimum annual service allowance for all members is \$440 multiplied by credited service.

#### Disability Retirement Allowance

##### Condition for Allowance

Totally and permanently incapable of being employed as a teacher and under age 60 but after completing 5 years of service.

##### Amount of Allowance

The disability allowance is equal to the greater of the service retirement allowance or 60% of the member's final average salary. The disability allowance is payable over an entitlement period equal to 25% of the service credited to the member at the date of disability or five years, whichever is longer. After the disability entitlement period has expired and if the member remains disabled, he will be retired under service retirement. The service retirement allowance will be computed with service credit given for the period of disability retirement. The allowance will not be less than \$6,000 per year. The service retirement allowance will not be reduced for commencement of the allowance before age 60 or the completion of 27 years of service.

#### Benefits Payable on Separation from Service

Any member who ceases to be in service is entitled to receive his contributions with allowable interest. A member who has completed 5 years of creditable service and leaves his contributions with the System may be continued in the membership of the System after separation from service, and file application for service retirement after the attainment of age 60.

#### Life Insurance

A separate Life Insurance fund has been created as of June 30, 2000 to pay benefits on behalf of deceased KTRS active and retired members.

Death Benefits

A surviving spouse of an active member with less than 10 years of service may elect to receive an annual allowance of \$2,880 except that if income from other sources exceeds \$6,600 per year the annual allowance will be \$2,160.

A surviving spouse of an active member with 10 or more years of service may elect to receive an allowance which is the actuarial equivalent of the allowance the deceased member would have received upon retirement. The allowance will commence on the date the deceased member would have been eligible for service retirement and will be payable during the life of the spouse.

If the deceased member is survived by unmarried children under age 18 the following schedule of annual allowances applies:

<u>Number of Children</u>	<u>Annual Allowance</u>
1	\$ 2,400
2	4,080
3	4,800
4 or more	5,280

The allowances are payable until a child attains age 18, or age 23 if a full-time student.

If the member has no eligible survivor, a refund of his accumulated contributions is payable to his estate.

Options

In lieu of the regular Option 1, a retirement allowance payable in the form of a life annuity with refundable balance, any member before retirement may elect to receive a reduced allowance which is actuarially equivalent to the full allowance, in one of the following forms:

Option 2. A single life annuity payable during the member's lifetime with payments for 10 years certain.

Option 3. At the death of the member his allowance is continued throughout the life of his beneficiary.

Option 3(a). At the death of the beneficiary designated by the member under Option 3, the member's benefit will revert to what would have been paid had he not selected an option.

Option 4. At the death of the member one half of his allowance is continued throughout the life of his beneficiary.

Option 4(a). At the death of the beneficiary designated by the member under Option 4, the member's benefit will revert to what would have been paid had he not selected an option.

Post-Retirement Adjustments

The retirement allowance of each retired member and of each beneficiary shall be increased by 1.50% each July 1.

3 - CONTRIBUTIONS

Member Contributions

University members contribute 8.375% of salary of which 7.625% is contributed to the Retirement System and 0.75% is contributed to the Medical Insurance Fund. Non-university members contribute 9.855% of salary of which 9.105% is contributed to the Retirement System and 0.75% is contributed to the Medical Insurance Fund. Member contributions are picked up by the employer.

**SCHEDULE F**

**TABLE 1  
AGE – SERVICE TABLE**

Distribution of Active Members as of June 30, 2006 by Age and Service Groups

Attained Age	Completed Years of Service								Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	>= 35	
24 & under Total Pay Avg. Pay	3,774 60,389,869 16,002								3,774 60,389,869 16,002
25 to 29 Total Pay Avg. Pay	7,118 194,189,082 27,281	1,633 65,241,872 39,952							8,751 259,430,954 29,646
30 to 34 Total Pay Avg. Pay	3,680 94,607,831 25,709	4,529 190,740,360 42,115	985 48,202,943 48,937						9,194 333,551,134 36,279
35 to 39 Total Pay Avg. Pay	2,853 68,608,471 24,048	2,476 106,025,790 42,821	3,170 159,096,913 50,188	978 52,577,426 53,760					9,477 386,308,600 40,763
40 to 44 Total Pay Avg. Pay	3,951 68,396,238 17,311	1,551 68,315,719 44,046	1,501 77,502,792 51,634	2,230 122,077,709 54,743	882 49,705,633 56,356	1 53,224 53,224			10,116 386,051,316 38,162
45 to 49 Total Pay Avg. Pay	1,985 46,208,148 23,279	1,301 59,078,648 45,410	1,332 68,948,637 51,763	1,375 77,450,400 56,328	2,019 118,195,694 58,542	924 54,566,564 59,055	1 52,243 52,243		8,937 424,500,334 47,499
50 to 54 Total Pay Avg. Pay	2,142 42,845,353 20,002	1,158 54,861,889 47,376	1,211 65,660,366 54,220	1,410 79,915,597 56,678	1,261 75,928,400 60,213	1,948 120,001,875 61,603	936 59,857,562 63,950		10,066 499,071,040 49,580
55 to 59 Total Pay Avg. Pay	3,267 56,582,366 17,319	703 34,925,376 49,680	822 45,169,933 54,951	1,045 61,308,005 58,668	925 56,224,799 60,784	722 48,104,030 66,626	579 42,591,233 73,560	129 9,813,503 76,074	8,192 354,719,245 43,301
60 to 64 Total Pay Avg. Pay	1,872 25,685,786 13,721	222 12,091,806 54,468	220 12,610,103 57,319	293 17,568,435 59,961	273 17,099,306 62,635	215 14,356,070 66,772	91 7,001,252 76,937	109 9,755,688 89,502	3,295 116,168,448 35,256
65 & over Total Pay Avg. Pay	1,564 14,604,019 9,338	54 3,239,212 59,985	60 3,737,249 62,287	57 3,564,902 62,542	63 3,931,252 62,401	40 2,698,748 67,469	40 2,895,727 72,393	60 4,615,377 76,923	1,938 39,286,485 20,272
Total Total Pay Avg. Pay	32,206 672,117,163 20,869	13,627 594,520,672 43,628	9,301 480,928,936 51,707	7,388 414,462,474 56,099	5,423 321,085,083 59,208	3,850 239,780,512 62,281	1,647 112,398,016 68,244	298 24,184,568 81,156	73,740 2,859,477,425 38,778

Average Age: 43.1

Average Service: 11.0

**SCHEDULE F**

**TABLE 2**

**NUMBER OF RETIRED MEMBERS AND BENEFICIARIES  
AND THEIR BENEFITS BY AGE**

<b><u>Attained Age</u></b>	<b><u>Number of Members</u></b>	<b><u>Total Annual Benefits</u></b>	<b><u>Average Annual Benefit</u></b>
49 & Under	895	\$ 11,550,750	\$ 12,906
50 – 54	2,568	81,077,608	31,572
55 – 59	8,432	280,345,305	33,248
60 – 64	7,486	235,909,250	31,513
65 – 69	5,953	172,551,739	28,986
70 – 74	4,407	115,722,408	26,259
75 – 79	3,515	81,881,428	23,295
80 & Over	<u>5,241</u>	<u>95,120,739</u>	<u>18,149</u>
Total	38,497	\$1,074,159,227	\$ 27,902